

The claims also have been amended so as to obviate any indefiniteness therein by specifically identifying what is meant by the criticized expressions "thereof" and "these materials", as well as to reinsert the limitation with regard to the average molecular mass, as so disclosed at page 1, lines 23 to 24 of the specification.

#### REMARKS

Favorable reconsideration of this application is requested.

Claims 1-12 are in the case.

The sole rejection of the claims still maintained by the Examiner is under 35 U.S.C. 112, first and second paragraphs.

With regard to this rejection predicated on the second paragraph of 35 U.S.C. 112, the claims have been amended in a manner believed to obviate the Examiner's criticisms. Should any further amendment to the claims be considered necessary by the Examiner, he is requested to contact the undersigned by telephone so that mutually agreeable language may be arrived at.

With regard to the rejection of the claims based on the first paragraph of 35 U.S.C. 112, the following is submitted in traversal thereof. The term "average molecular mass" in the specification corresponds to and is translated from the expression "mittlere Molmasse" in the priority papers, submitted herewith and incorporated by reference in the present application. Note, Claim 1 of the priority papers and page 3, lines 13 to 14 of the present application, respectively.

In "An Introduction to Polymer Science" by Hans-Georg Elias, 1997, pages 24 to 25 (a copy of which is enclosed) "average molecular mass" is stated to be dimensionless, i.e. it being a relative term. Note page 24, third line from the end, to page 25, line 14:

The relative molecular mass  $M_r = m_{\text{mol}}/m_{\text{am}}$  is defined as the ratio of the mass  $m_{\text{mol}}$  of a molecule of a substance to the atomic mass constant  $m_{\text{am}} = m_{\text{a}}(^{12}\text{C})/12$ . The relative molecular mass is thus a pure number (it is "dimensionless"). It is also called molecular weight. Nonuniform polymers possess number-average relative molecular masses  $M_{r, n}$  (= number-average molecular weights) and mass-average relative molecular masses  $M_{r, w}$  (= weight average molecular weights) that are defined similarly to the corresponding average degrees of polymerization (Eqns. (2-1) and (2-2)). Number-average molecular weights are usually determined by chemical and group determinations (osmotic measurements do not give molecular weights but molar masses, see below).

The atomic mass constant  $m_{\text{am}}$  is equal to the unified atomic mass unit with IUPAC symbol u (and common symbol amu), i.e.,  $m_{\text{am}} = 1 \text{ u}$ . In biochemistry, the unit u is called the dalton, with the symbol Da. Note that the "dalton" has the physical unit of a mass (e.g., gram). Neither the name "dalton" nor the symbol "Da" has been approved by the *Conférence Générale des Poids et Mesures*. If relative quantities are considered, one can use "weight" provided it is done in a consistent manner. One can therefore use either *mass*-average relative molecular *mass* or *weight*-average molecular *weight* but not *weight*-average relative molecular *mass*.

It is thus readily apparent that "average molecular mass" is identical to "mittlere Molmasse," as so disclosed in the priority papers, the present specification and claims having been amended consistent therewith based on the priority papers incorporated by reference herein.

Here again, should any further amendments to the claims be considered necessary by the Examiner, he is requested to contact the undersigned by telephone so that mutually agreeable language may be arrived at.

Withdrawal of the rejection of the claims under 35 U.S.C. 112, first and second paragraphs, their only rejection, thus is requested.

It is submitted that this application is now in condition for allowance which is solicited.

Respectfully submitted,

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**MARKED-UP COPY**  
**IN THE SPECIFICATION**

Page 1, paragraph at lines 20 to 24, please amend as in the attached marked-up copy to read as follows.

--Briefly, this object and other objects of the present invention as hereinafter will become more readily apparent can be attained by polyureas prepared by reacting isophorone diisocyanate (IPDI), hexamethylene diisocyanate (HDI), the isocyanurates thereof with amines, the polyureas having a NCO/NH<sub>2</sub> ratio of 0.9 to 1.1 to 1 and an average molecular [weight] mass of at least 5000.00

**IN THE CLAIMS**

Please amend Claims 1 and 10 as in the attached marked-up copy to read as follows:

--1. (Twice Amended) A polyurea, comprising the reaction product of isophorone diisocyanate (IPDI), hexamethylene diisocyanate (HDI), isocyanurate[s thereof] of IPDI, isocyanurate of HDI, or a combination of IPDI, HDI, isocyanurate of IPDI or isocyanurate of HDI, [these materials] with isophorone diamine (IPD), the polyurea having a NCO/NH<sub>2</sub> ratio of 0.9 to 1.1 to 1 and an average molecular mass of at least 5,000.--

--10. (Twice Amended) A process for preparing polyureas as claimed in Claim 1, comprising:

reacting IPDI, HDI, isocyanurate[s thereof] of IPDI, isocyanurate of HDI, or a combination[s] of [these materials] IPDI, HDI, isocyanurate of IPDI or isocyanurate of HDI,

with isophorone diamine (IPD) in a solvent, the isocyanate also optionally being diluted with a solvent;

heating the reaction medium for 2 to 3 hours in refluxing solvent and then cooling the reaction medium; and

separating the resulting polymer and then drying the polymer for 3 to 6 hours at 130 to 170°C in a vacuum.--